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## A New Look At the Battle of the Atlantic (U)

By

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A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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## CHAPTER I

**Thesis:** For the past 12 years, the U.S. Armed Forces have planned for war and fought under the Weinberger Doctrine. As those forces downsize due to a perceived reduction in the threat and a shift in political priorities, there is some anxiety over our future ability to respond with the rapid application of overwhelming force. Will America fight with reduced assets? Can she win with acceptable losses and casualties?

An analysis of German U-Boat operations in the Battle of the Atlantic, which ended 50 years ago this month, suggests an affirmative answer to these questions and offers many relevant lessons for the post cold warrior. Admiral Karl Doenitz and his small and sometimes tiny force of submarines came very near to turning the tide on three occasions. A study of his masterful practice of the operational art provides numerous examples of how to do much with little and how audacity, initiative, and flexibility can be extremely effective force multipliers. The experiences of the Battle of the Atlantic also highlight several potential weaknesses in present U.S. military thinking. First, the reconstitution that provided the warships, aircraft, and merchantmen that drove Doenitz and his boats from the North Atlantic, may not be possible today. Second, the new U.S. naval strategy articulated in "From the Sea" focuses on low intensity, littoral warfare and power projection ashore.<sup>1</sup> Present plans call for large, costly, multi-purpose platforms to enable the strategy. The Allied battle fleet of large, surface combatants, proved ill suited to fight the U-boat and the mine in the Battle of the Atlantic. The battle was won by smaller, simpler, and far less costly ships. A naval power which bases too much of its strength on a few expensive, difficult to replace vessels may be ill equipped to fight the low intensity naval battle on the littoral.

## **Preface.**

The Battle of the Atlantic ended fifty years ago this month when the full integration of American, British, Canadian convoy escort forces and a massive merchant shipbuilding effort allowed the Allies to assert decisive sea control. Faced with unacceptable losses in boats and crews, Admiral Karl Doenitz withdrew his submarines from the North Atlantic. They never returned in significant numbers. Even in defeat, the performance of the German submarine forces in the battle was phenomenal. During the Battle of the Atlantic Admiral Doenitz practiced the operational art with exceptional skill. He began the battle with a sound doctrine, a comprehensive understanding of the strategic, operational, and tactical challenges of the theater, and clear appreciation of the center of gravity. Doenitz seized and maintained the initiative. He kept the pressure on the enemy with great tenacity. However, he was quick to sense the culminating points of his campaigns. This paper will, first, briefly summarize the Battle of the Atlantic. Next it will examine Admiral Doenitz's practice of the operational art, as he planned and executed the four campaigns of the battle. Finally, lessons for the operator of today will be extracted and discussed.

## **The Battle of the Atlantic**

Germany conducted anti shipping operations in the Atlantic throughout World War 2. However, the real Battle of the Atlantic was fought from June, 1940 to May, 1943. Prior to the fall of France, Germany could put only a handful of boats to sea. These boats operated from German North Sea ports under severe geographic limitations and substantial political restrictions.<sup>2</sup> Doenitz withdrew the boats on from the North Atlantic on May 29, 1943.<sup>3</sup>

Further U-boat operations were "holding actions", while Admiral Doenitz rearmed with new, more capable boats.<sup>4</sup>

The Battle of the Atlantic was comprised of four campaigns. The first three were characterized by initial successes which could not be sustained due to shortages of U-Boats. The final campaign involved massive and sustained operations. They are briefly summarized below.

**Initial Operations and "the Happy Time".** The Battle of the Atlantic commenced in June, 1940 when Admiral Karl Doenitz, the German U-boat commander, moved his Operations Center to Kernevel, France<sup>5</sup> and his boats began to operate out of captured French ports.<sup>6</sup>

At first the U-boats operated close to the British Isles. Doenitz had only small numbers of boats available during this time and his commanders concentrated on unescorted vessels. There were plenty of them. The convoys that were formed were poorly organized and convoy operations were poorly executed. Pickings were easy as England braced for invasion and fought the Battle of Britain.<sup>7</sup> German successes at sea were great. The U-boat commanders referred to the initial campaign as the "Happy Time".

During February 1941, Hitler put full pressure on Britain from both the air and sea. For a time, food imports were severely strained.<sup>8</sup> The culmination of the campaign came in late October when one of the first wolfpacks decimated convoys SC-7, and HX-79. Five boats destroyed 44 out of 94 ships and sent 180,000 tons of desperately needed supplies to the bottom.<sup>9</sup> During this first campaign U-boat losses were minimal.<sup>10</sup> The boats sank 386 ships having a gross weight of over 2 million tons.<sup>11</sup> Doenitz managed this huge success with an average of only 6 boats at sea.<sup>12</sup>

Such success on a shoestring had its price. The high sortie rate, increased distances, and the weather took its toll on boats and crews. They needed rest and refit. Doenitz was receiving only a trickle of new and replacement boats each month. Production of boats was slowed due to shifting priorities and preparations for the invasion of the Soviet Union.<sup>13</sup> Doenitz could only put three boats at sea in December 1940.<sup>14</sup> By the end of March 1941, he had only 57 operational boats. This was no more than he had started the war with.<sup>15</sup> Doenitz reduced the tempo of operations.

**Strategic Vacillation, Technological counterpoint.** The second campaign ran from April to December 1941. It was less effective due to a continuing shortage of operational boats, The High Command's preoccupation with the invasion of the Soviet Union and Hitler's constant diversion of boats to Norway and the Mediterranean.

Because assets were still scarce and air cover close to the British Isles was becoming more effective, Doenitz experimented with submerged day attacks. These were not successful. The boats were too slow to pursue the convoys while submerged.<sup>16</sup> As the number of available U-boats slowly increased,<sup>17</sup> Doenitz was able commence sustained Wolfpack operations<sup>18</sup>

On the Allied side the escorts were becoming more effective and convoy air cover, more prevalent.<sup>19</sup> The U.S. had begun assisting with escort duties.<sup>20</sup> A submerged U-boat could expect heavy punishment after an attack.<sup>21</sup> Doenitz moved the operating area for his boats further west near Iceland in search of safer hunting grounds.<sup>22</sup> In October Hitler ordered the bulk of the U-boats to the Mediterranean<sup>23</sup> The result was a respite for the Allies. During the second campaign the U-boats sank 331 ships totaling 1.6 million tons.<sup>24</sup>



**Drumbeat.** The third campaign began with the entry of the United States into World War 2.<sup>25</sup> Immediately after Hitler declared war upon the United States, Doenitz sent a few boats to the east coast of the United States where coastal shipping was heavy and unescorted.<sup>26</sup> He named this campaign, Operation Drumbeat<sup>27</sup>. Doenitz was still desperately short of boats, especially the longer range Type IX. Most of the time, he could get only a half a dozen boats into the battle.<sup>28</sup> These few boats scored impressive results against a U.S. Navy which was woefully unprepared both in material and in military temperament.<sup>29</sup> From January to May 1942, 87 ships, half of them tankers, totalling over a million tons were sunk in American waters. Only one boat was lost. During the entire campaign the U-boats sank 887 ships totalling 4.5 million tons. The Germans sank tonnage at a rate 5 times greater than the ability of the allies to replace it.<sup>30</sup>

Gradually, the coastal convoy system improved. Doenitz moved his boats into the Caribbean, Gulf of Mexico, and off South America in search of easier pickings.<sup>31</sup> This movement south, once again reduced the pressure on the Atlantic convoy routes.<sup>32</sup>

Drumbeat petered out in July 1942, largely due to the great distances involved and the shortage of boats.<sup>33</sup> The campaign could not be sustained as crew fatigue and maintenance problems took their toll.<sup>34</sup> Doenitz paused briefly while he made ready for what he hoped would be the decisive battle.

**Götterdämmerung.** The final Campaign was fought from October 1942 to May 1943. Fighting in the worst weather in the North Atlantic in 50 years,<sup>35</sup> his boats sank their highest tonnages ever, only to have the battle turn decisively at the moment of triumph. From October to May the u-boats sank 480 ships totaling 2.9 million tons.

In late Summer 1942, the long promised new boats began to arrive in significant numbers.<sup>36</sup> In October Doenitz had 180 operational U-boats and the crews were finally trained.<sup>37</sup> The increased numbers<sup>38</sup> allowed him to deploy extended scouting lines in the Atlantic in search of the convoys.<sup>39</sup> He finally had enough boats for extended and sustained wolfpack operations with several groups of 20 or more boats. He also had the temporary advantage of having broken the British naval code.<sup>40</sup> In November Doenitz scored his highest successes of the war.<sup>41</sup>

The area Doenitz chose for the campaign was known as the "Devil's Gorge."<sup>42</sup> It was the last 300 mile wide area of the Atlantic where U-boats could operate relatively immune from air attack.<sup>43</sup> In this area south of Greenland, Doenitz launched the largest wolfpack attacks of the war. He inflicted staggering losses on the allies. During the first 20 days of March he sank 96 allied ships totalling half a million tons.

In April and May 1943 the battle turned, suddenly, against Doenitz. The allies had given priority to the antisubmarine war in the Atlantic at the Casablanca Conference. By late Spring the Allied forces began to show results.<sup>44</sup> More and better equipped escorts were on patrol, a new, more accurate radar was installed in patrol aircraft and the VLR Liberator aircraft began extended patrolling of Devils Gorge.<sup>45</sup> The Allied breaking of the naval code and subsequent Ultra intercepts allowed location of the boats and rerouting of the convoys.<sup>46</sup> The decrease in Allied vessels sunk<sup>47</sup> was almost as dramatic as the increase in the number of U-boats destroyed.<sup>48</sup>

Admiral Doenitz clearly saw the culminating point. During May, 1941 Doenitz lost 41 boats. At the same time he had sunk only 250,000 tons of shipping. His strategy was no longer sound and his boats were obsolete. Unless he could attack at high speed from under the surface, he could not succeed<sup>49</sup>. He withdrew his boats from the North Atlantic. They never returned in appreciable numbers. The Battle of the Atlantic was over<sup>50</sup>.

### Chapter 1 Endnotes

1. Sean O'Keefe, et. al. "From the Sea"
2. Terry Hughes and John Costello, The Battle of the Atlantic. (New York: Dial Press, 1977) p. 42.
3. Admiral Karl Doenitz, Memoirs: Ten Years and Twenty Days. (New York: World, 1959) p. 341.
4. Ibid., pp. 243, 354.
5. Dan van der Vat, The Atlantic Campaign, World War II's Great Struggle at Sea. (New York: Harper & Row, 1988.) p. 166.
6. Richard Hough, The Longest Battle: The War at Sea 1939-1945. (New York: Morrow, 1986.) p. 40.
7. Hughes and Costello, p.94.
8. Ibid., p. 128.
9. Ibid., p. 111.
10. van der Vat, pp. 151-152
11. John Keegan, ed. The London Times Atlas of the Second World War. (New York: Harper & Row, 1989) p. 48.
12. Hughes and Costello, p. 95.
13. Ibid., p. 164.

14. Wolfgang Frank, The Sea Wolves, The Story of the German U-Boats at War. (New York: Rinehart, 1955), p. 91.
15. Hughes and Costello, p. 122.
16. van der Vat, p. 183.
17. Ibid., p. 231.
18. Tactics utilized were constantly refined to the situation but the basics of the wolfpack attack remained constant throughout the course of the war. Doenitz would use all intelligence assets available to attempt to predict the course of a convoy. He would put boats on patrol line at right angles to the predicted course of the convoy, spaced 25-30 miles apart. A boat would report a sighting to headquarters and continue to follow the convoy. Doenitz would radio closing courses to other boats in the area to join on the sighting boat (which would broadcast a homing signal) to form the wolfpack. Individual boats were forbidden to attack until the pack was formed. The boats would assemble and take up positions ahead of the convoy. The boats would begin their coordinated attack after dark and continue throughout the night. At dawn the boats would break off the attacks and position themselves to continue the attack when darkness again fell. Lieutenant-Commander Peter Kemp, "Grand Admiral Karl Doenitz." The War Lords, Field Marshal Sir Michael Carver, ed. (Norwalk: The Easton Press, 1993), p. 476. Doenitz, p. 207.
19. van der Vat, p. 206.
20. Hughes and Costello, p. 176.
21. Barrie Pitt, The Battle of the Atlantic. (New York: Time-Life, 1977), p. 127, 132.
22. van der Vat, p. 182.
23. Hoyt, p. 129. Not a single one of the 62 submarines dispatched to the Mediterranean ever made it back into the Battle of the Atlantic. Those that operated there had little success. Pitt, p. 131.
24. Keegan, London Times Atlas of the Second World War, p. 88.
25. Doenitz, p. 195.
26. Hough, p. 54.
27. Edward L. Beach, "Down by the Subs", Naval Institute Proceedings, April 1991, p. 89.
28. Hughes and Costello, p. 199.

29. Pitt, p. 154.
30. Keegan, The Second World War, p. 106.
31. Pitt, p. 177.
32. Ibid., 177.
33. van der Vat, p. 265.
34. Ibid., p. 218.
35. Ibid. p. 249.
36. Hough, p. 57.
37. Vice-Admiral B. B. Schofield, "The Defeat of the U-Boats during World War II." The Second World War, Essays in Military and Political History. Walter Laquer, ed. (London: Sage, 1982), p. 180.
38. The one downside of the expansion was the dilution of experienced crews to man the boats. van der Vat, p. 206.
39. Keegan, The Second World War, p. 115.
40. Ibid., p. 113.
41. van der Vat, p. 299
42. Frank, p. 183.
43. Hughes and Costello, p. 225.
44. van der Vat, p. 300.
45. Ibid., p. 315.
46. Ibid., pp. 309-310.
47. Hughes and Costello, p. 282.
48. Doenitz, p. 340.
49. Ibid., pp. 354-355.
50. van der Vat, p. 337.

## CHAPTER II

### **Admiral Doenitz and the Operational Art.**

Admiral Doenitz very nearly closed the North Atlantic convoy route in 1940, 1942, and 1943. His U-Boats exacted massive damage on the Allies and prevented much needed war material from reaching Britain and the Soviet Union. This greatly reduced the pressure on the German army and prolonged the war. Doenitz achieved these impressive results with a minimum of assets and against heavy odds, by his masterful practice of the operational art. The remainder of the paper will examine Admiral Doenitz's practice of the operational art and extract lessons for modern commanders.

Although he may have described the process somewhat differently, Admiral Doenitz formulated and answered the basic questions that have to be answered by any successful operational commander. He determined what military conditions must be produced in the operational area to achieve the strategic goal by articulating his theater objective, devising a strategy to achieve the objective, and identifying the center of gravity of the battle. Next he determined the sequence of actions likely to achieve his objective. These included formulating campaign plans and devising a staff operation to manage the battle at the operational level. Prior to the war he had developed a doctrine for the optimum employment of the U-boat. He implemented and refined this doctrine throughout the campaigns and displayed great flexibility and innovation when resources were scarce. Finally he appreciated the risks involved in the U-boat campaigns and was ready to accept reasonable losses. When losses became unacceptable he terminated the campaign.

**Strategy.** Germany had a continental strategy during World War 2. Her ultimate goal, as proclaimed by Hitler was German hegemony in Europe through settlement with Britain and the destruction of the Soviet Union. Germany's naval strategy<sup>1</sup>, in the tradition of Corbett,<sup>2</sup> was to deny the enemy of his external lines of communication..<sup>3</sup> Admiral Doenitz understood the concepts of Corbett. He also understood that Britain needed to import vast quantities of food and material to live and fight. To deny Britain her imports would starve her from the war. Virtually all of those imports came by sea via the Atlantic approaches. Doenitz's campaign strategy was to close the Atlantic lifeline.

#### **Formulating the Objective.**

Doenitz, however, had a clear vision on what his objective was. To sever the vital supply line between Britain and the rest of the world, he had to patrol the Atlantic, find the enemy ships, and position his boats to attack them. He continually repositioned his boats to provide maximum offensive opportunity at acceptable risk. All planning and U-boat operations in the Battle of the Atlantic flowed from this firmly held objective--sever the SLOC's between Britain and her empire and allies.

#### **Center of Gravity.**

The center of gravity of the Battle of the Atlantic was equally clear to Admiral Doenitz.<sup>4</sup> To close the Atlantic lifeline, he had to sink or otherwise drive allied merchant ships from the sea. The Battle of the Atlantic could not be won by destroying allied warships. The center of gravity was the merchantman, transport, and tanker. Doenitz had calculated that the Atlantic lifeline could be cut and Britain forced to capitulate if his boats could sink more than 700,000 tons of merchant shipping per month. He believed (erroneously it turned out)

that this amount would exceed Britain of the United State's ability to replace ships and, eventually, starve Britain out of the war.<sup>5</sup> Doenitz did not distinguish between full and empty vessels. If an empty ship was sunk it could not be reloaded. However, If given a choice, his captains would target the laden vessel. <sup>6</sup>

**The Campaign Plan.** Doenitz's area of operations was the Atlantic. While he concentrated on the great circle convoy routes between North America and Britain, he did not limit himself exclusively to this area. His campaign plans sought to take maximum advantage of surprise and concentration at the point where the enemy defenses were acceptably weak. The campaigns moved from the vicinity of the British Isles, to the middle of the Atlantic, to the East coast of the United States, and back to the middle of the Atlantic. Often, when enemy defenses were heavy or boats short supply, he shifted his area of operations south or west, in search of a less concentrated but more vulnerable enemy.

Admiral Doenitz believed that he could deny the SLOC's in the North Atlantic to Britain to the Allies with a force of 300 U-boats that would allow him to keep 100 at sea at all times.<sup>7</sup> He would deploy the boats in scouting lines to detect the convoys. When a convoy was detected he would mass his boats for a simultaneous night surface attack using 20 or more boats.<sup>8</sup> For maximum effect, the boats needed to be deployed in large enough numbers to allow simultaneous attack. This kept the escorts scattered.

### **Doctrine**

Operations and campaigns based on sound, shared doctrine are more likely to produce a better result when subjected to the fog and friction of war. Admiral Doenitz began to develop the U-boat doctrine well before the war. His experience as a U-boat commander in



the World War 1 gave him a clear understanding of the unique capabilities of the U-boat. In the strategic arena, he designed his submarines that were responsive and easy to handle on the surface but with a small conning tower which made it extremely hard to spot.<sup>9</sup> He postulated and exercised the concept of the massed surface U-boat attack during a time when most of the world's thinkers and all of the British Admiralty were postulating that the only way a u-boat would attack was while submerged.<sup>10</sup> Doenitz, throughout the battle of the Atlantic, continually refined and modified the doctrine based on his experiences and those of his commanders. He personally met with all returning captains to debrief them on their experiences and tap their brains for improvements. His mind remained flexible and pliable throughout the conflict as he sought to refine the battle to take maximum advantage of his rapidly declining advantages and to rationally confront or avoid the advantages of the expanding enemy.

The sound doctrine laid by Admiral Doenitz created the foundation of an elite force of subsurface warriors who were superbly trained, thoroughly indoctrinated, aggressive, and competent. Their morale was high despite the adverse conditions and danger of the North Atlantic.<sup>11</sup>

### **Vision**

Admiral Doenitz was a commander with great vision who could easily conceptualize the big picture and tailor his campaign so as to take maximum advantage of trends and changes. He was constantly reevaluating his doctrine, strategy, and tactics for maximum effect and efficiency. He was ready to move his boats and center of operations to France only two days after the Armistice was signed.<sup>12</sup> His study of reconnaissance and intelligence when

combined with his experience and intuition allowed him to identify several nodal or "choke" points on the convoy routes where the enemy tended to concentrate its shipping.<sup>13</sup> He deployed and employed his forces to take maximum advantage of these concentrations while they existed.<sup>14</sup> He was equally astute in his ability to synthesize intelligence and other data and information to identify the concentration of enemy defenses. He was sensitive to the increasing air coverage and attempted to steer his boats into the gaps.<sup>15</sup>

### **Initiative**

Maintaining the initiative was the key to the Battle of the Atlantic. The mere presence of his boats was not going to drive the convoys from the Atlantic. Doenitz had to attack to prevail. He continually urged his crews to use their skill and initiative to make up for what they lacked in numbers.<sup>16</sup> Throughout the battle he kept the pressure on. Even after he withdrew from the Atlantic in 1943 he continued to press to regain it. He experimented with technological advances such as increased anti aircraft weaponry, acoustic torpedoes, the submarine tanker, and the snorkel.<sup>17</sup> He designed and constructed two new classes of boats with greatly enhanced speed, endurance, sensors, and weapons. These boats would have regained the initiative in the Atlantic and prolonged the war had they been ready sooner.<sup>18</sup> Doenitz kept his forces engaged to maximum effect to the very end. His boats continued to sortie independently and attack targets of opportunity. Although the tonnage sunk was a mere fraction of that of the glory days of the Battle of the Atlantic, this effort tied up massive amounts of escort shipping and aircraft that the Allies could have used to great effect against Germany.

## Centralized Direction, Decentralized execution

How to maintain optimum control of the U-boat battle was a vexing question at the outset of the battle of the Atlantic. Some speculated that the battle could be fought optimally with control of the individual boats exercised from command and control boats at sea with the wolfpacks. Others postulated that the best way to run the battle was from a central headquarters ashore.

Doenitz tried both approaches and rapidly determined that the Battle of the Atlantic could be fought with maximum efficiency with centralized command and control. It was not feasible that the battle could be directed with maximum situational accuracy from the cramped spaces of a submarine surfaced in the rough waters of the North Atlantic. For the remainder of the battle, he and a remarkably small staff directed operations from his headquarters at Kernevel near the U-boat base at Lorient.<sup>19</sup> The staff was small but they enjoyed a great synergy. The routine day began when the small staff assembled at 0900 in the operations room. The walls were surrounded by Atlantic charts with positions of boats and convoys plotted. The staff went over reports and intelligence estimates. They then discussed in round table fashion the options available. Doenitz decided on a course of action and then issued the orders for the next 24 hours.<sup>20</sup> These were transmitted immediately.<sup>21</sup>

Centralized direction of the battle did not mean centralized tactical control. Doenitz maintained control only to the point of getting his boats in the optimum position for the attack. Once the boats were in position ahead of the convoy, the tactical battle was left to the total discretion of each boat commander.<sup>22</sup> The captain selected the ships to attack and executed the attack. He then took whatever evasive action necessary to avoid the wrath of

the escorts. Once the attacks were completed, Doenitz once again took over to direct the boats either to another convoy, picket line, or to pursue during the day for a reattack the next night.

This combination of operational control and tactical initiative proved to be very effective. It allowed taking maximum advantage of his superior view of the situation, relaying the tactical picture to his commanders, and issuing broad mission type orders for the execution of the attacks. Doenitz kept his staff small and rotated experienced commanders to and from the staff. This great synergy contributed greatly to the successes of 1940, 1942, and 1943.

There were risks inherent in centralized control. The radio traffic required by centralized direction left a signature that could be tracked and assisted in locating the boats. The allies became highly adept in High Frequency Direction Finding (HFDF).<sup>23</sup> Doenitz moved to reduce this risk with a new series of "Short burst" code signals designed to reduce the duration of radio traffic to a minimum.<sup>24</sup> This did not completely solve the problem. However, radio communication remained essential to enable the massed attack.

### **Mass and Economy of Force**

Doenitz's entire concept of operations depended on the principle of mass. He accepted as a given that the enemy would form his ships into convoys. The best way to attack a convoy was through the combined and coordinated attack by the maximum number of boats.<sup>25</sup> He was not, however, inflexible in his emphasis on the massed attack. He made sure that his commanders clearly understood that the objective was the sinking of the maximum number of ships at the least cost. He dispersed his boats during the early days of the battle when he did

not have the number of assets at sea required to give him the probability of success at least cost. In the end he withdrew his boats from the battle when he realized that the costs in lost boats and crews had exceeded the benefits of tonnage sunk.

Doenitz mastered the delicate balancing act between mass for attack and economy of force as he employed his often limited assets he had for optimum effect. When U-boats were available in the area and the defenses permitted, he massed for attack. When boats were scarce or defenses heavy, he dispersed the boats in search of the straggler or unescorted vessel. He was aggressive and innovative without being reckless. Even when assets were scarce, he had the courage to take risks to try new techniques. Unlike the German and British admirals of World War 1, he was not afraid to use his forces. He fully appreciated that he needed more than a "fleet in being" to reach his objective. The convoys were going to sail and he had to be there to meet them. The final tally is a tribute to Doenitz's use of economy of force. He achieved some of his highest numbers when he had the fewest boats at sea.

### **Culminating Point**

Doenitz fully appreciated the concept of the culminating point. His boats attacked escorted convoys. He understood that success would carry a price. He pressed the battle even though he was losing precious boats and crews. He accepted the inevitability of losses but was not, reckless or careless. Doenitz insisted that his captains and crew be fully trained before they deployed. He resisted pressure to cut short or suspend training in order to get more boats at sea during critical periods.<sup>26</sup> He kept track of his losses and tried to deduce the causes in every instance.<sup>27</sup> He was sensitive to Allied defensive successes and

was often the master of innovation to reverse them. In the end, he appreciated that technical or tactical innovation would not reverse the Allied juggernaut, given the design limitations of the Type VII and Type IX boats. In May 1943 he withdrew his boats from the battle and conceded the North Atlantic to the Allies.

He did not, however, cease operations. He continued to fight until the very end. He moved his boats and changed their tactics.<sup>28</sup> The convoys of the North Atlantic did not enjoy a totally empty sea. Doenitz sent his boats into the area at regular intervals to continue to posture the threat, fight a holding or spoiling actions, and to continue to tie and otherwise divert allied assets that could be used to great effect, elsewhere.

## Chapter II Endnotes

1. Much has been written on Hitler's inadequacy as a strategist and Germany's strategic incompetence during World War 2. While there is great merit in these criticisms, they are beyond the scope of this paper. Hitler's strategic decisions and vacillation as to centers of gravity often limited the assets Admiral Doenitz had available to fight the Battle of the Atlantic. It is interesting but not useful to speculate on what Doenitz might have accomplished if Hitler had a better appreciation for things naval. It is useful in the modern era of limited assets to carefully examine how Admiral Doenitz accomplished so much with such limited assets.

2. Geoffrey Till, "Corbett and the 1990's", (Paper delivered for the Corbett-Richmond Conference, September 1992) p. 8-10.

3. Brigadier General Telford Taylor, "Indecision." Army, April 1958, p. 62. "Hitler was, after all, a demagogue and politician by experience and inclination. In those terms he was a man of extraordinary gifts, but these did not include a Bismarckian mastery of *Grosspolitik*...His knowledge of world affairs was superficial and his mental pictures of foreign lands and peoples were a gallery of stereotypes, titled with cliches. He was erratic and sloppy in his working habits and these traits reflected a profound instability which precluded steadfastness of purpose and clarity of vision. He wanted to appear hard, cold,

and ruthless, and his actions were often governed by that aim. Underneath the overlay, however, Hitler was nervous, indecisive, impulsive, and lacking in self-control."

4. Dan van der Vat, The Atlantic Campaign, World War II's Great Struggle at Sea. (New York: Harper & Row, 1988) p, 214.

5. Terry Hughes and John Costello, The Battle of the Atlantic. (New York: Dial, 1977), p. 218.

6. van der Vat, p. 214.

7. Admiral Karl Doenitz, Memoirs: Ten Years and Twenty Days, trans, R.H. Stevens. (New York: World, 1959), p. 43.

8. Hughes and Costello, p. 104.

9. Richard Hough, The Longest Battle: The War at Sea 1939-1945, (New York: Morrow, 1986), p. 39.

10. Ibid., p. 38.

11. Hughes and Costello, p. 29.

12. van der Vat, p. 128.

13. Doenitz, p. 61.

14. Wolfgang Frank, The Sea Wolves, The Story of the German U-Boats at War. trans. Lieutenant Commander R.O.B. Long, R.N.V.R., (New York: Rinehart, 1955) p. 111.

15. Hughes and Costello, p. 225.

16. Ibid., p. 95

17. David Mason, U-Boat, The Secret Menace, (Ballentine: New York, 1968), pp. 143-160.

18. Marc Milner, "The Dawn of Modern Anti-Submarine Warfare: Allied Responses to the U- Boats, 1944-45." RUSI Journal, Spring 1989, p. 66.

19. Doenitz, p. 129.

20. Hughes and Costello, p. 103.

21. Doenitz monitored the ebb and flow of the battle in a relatively austere operations center. He used, however, fairly sophisticated techniques to manage operations. The situation room was surrounded by maps and charts. Doenitz did much of his conceptual calculations using a large globe so he could better envision the great circle routes and the distance involved. In addition to the usual maps showing position of boats and convoys, he utilized many other indicators. He had weather charts which showed current, fog, ice, and other conditions. He had charts of boats in route and from the area of operations. He also had charts of boats in refit or final shakedown and their scheduled ready dates. Adjacent to the situation room was the museum, where a running total of shipping sunk to boats lost was maintained. Doenitz understood that sinking reports tended to be exaggerated and used a number of techniques to arrive at realistic status figures. Key figures to him were the ration of tons sunk per boat lost. Losses were calculated in the percentages of boats in operation. He expected and was comfortable with losses in the area of 10%. pp. Doenitz, 129-131, 340.

22. Frank. p. 92.

23. Barrie Pitt, The Battle of the Atlantic, (New York: Time-Life, 1977), p. 123.

24. Doenitz, p. 63.

25. Ibid., p. 61.

26. Ibid., p. 113.

27. Doenitz, p. 130.

28. Hughes and Costello, p. 283.



## **CHAPTER III**

### **The Lessons of the Battle of the Atlantic**

The Battle of the Atlantic is rich with relevant lessons for today.

### **A Few Lethal Assets Can Constitute an Effective "Fleet in Being".**

Contemporary planners anticipate the likely conflict of tomorrow as one of relatively low intensity, confined to a single region, and against a less capable and equipped enemy. The U.S. and her allies are drastically downsizing their military forces in light of the perception of a reduced threat, and as other priorities compete for frugal government spending by economies weakened by recession.

Most agree that the warships of tomorrow will be more expensive, multi-purpose, highly complex platforms in dramatically smaller numbers. During the Battle of the Atlantic, admirals and kings were hesitant to risk their capital ships when they were unsure that they had control of the sea. Admiral Doenitz proved that a determined foe with a few submarines and mines, employed with great operational skill, could nearly "stop the show" for a time. The modern diesel electric submarine is quiet, capable and difficult to detect. Mines are plentiful and cheap. Unless and until the subs are run to ground with certainty or the mines swept, they constitute a "fleet in being" which can severely inhibit littoral operations. The U.S. must develop doctrine and system that fully and adequately addresses the low end threat.

### **Overconfidence in Superior Technology.**

Britain spent a great deal of time and money between the wars developing the ASDIC system.<sup>1</sup> (ASDIC takes the name of the Allied Submarine Detection Investigation Committee which developed it. It is a sonar system.) She was convinced that U-Boats would fight submerged and ASDIC gave her a false sense of confidence in her ability to detect and destroy submerged boats.<sup>2</sup> This caused two major problems. First, the U-boats of the Battle of the Atlantic fought mainly on the surface where ASDIC was useless. Second, ASDIC, like many new technologies, did not work as advertised at all times. The price of this overconfidence was that other potential defenses, especially long ranged aircraft and airborne radar, were not developed concurrently. In the end, these systems came to the fleet in time as a result of a massive commitment of manpower and money. It is unlikely that such crash programs are possible in the modern military procurement environment. Presently the U.S. is not placing enough emphasis on the technology to counter the shallow water submarine and mine threat.

### **The Importance of the Force Multiplier.**

Force multipliers can be vitally important when forces or assets are scarce. They can clearly enhance an effective but heavily engaged force by giving a relative advantage. Force multipliers were important in the Battle of the Atlantic. Both sides utilized technology to maximum advantage and this had some effect. Radar and High Frequency Radio Direction Finding were developed and used effectively.<sup>3</sup> The allies adapted long range aircraft to the convoy escort role. They equipped these aircraft with radar, and powerful searchlights. They also developed and launched a highly effective ASW vessels in the corvette, sloop,

destroyer escort, and the escort carrier. The Germans developed the submarine tanker, or milch cow,<sup>4</sup> the radar warning receiver, the acoustical torpedo, and the snorkel. In the Spring of 1945 they had a new class of ocean going subs of markedly increased capability ready for sea.<sup>5</sup>

Both sides managed to crack each other's codes. The German's read the British naval code for the majority of the war.<sup>6</sup> The British managed to crack the German Naval code from December 1942<sup>7</sup>. When intelligence was available it was used to maximum advantage by both sides. The Germans used their intercepts to locate convoys<sup>8</sup> and the Allies theirs to steer convoys away from suspected boat locations<sup>9</sup> and to strengthen defenses against U-boats.<sup>10</sup>

While these advances and advantages assisted each side in the Battle of the Atlantic, they were not decisive. What was decisive for the allies was that the industrial output of the U.S. and Britain vastly outpaced that of Germany. Merchant ships were built faster than they could be sunk and new escorts and aircraft were produced in overwhelming numbers. On the Germany's greatest force multiplier was the initiative and sound doctrine practiced by the U-boat commanders and crews as enabled by Admiral Doenitz's solid doctrine and practice of the operational art. In the lower tech, come as you are environment, of the littoral low intensity conflict, the force multiplier of fighting smarter with a sound doctrine may be the force multiplier that provides the greatest advantage.

#### **The Viability of Reconstitution.**

One of the four pillars of the U.S. military strategy is "reconstitution"<sup>11</sup>. Although the term carries a number of connotations, it largely means the retention of the capability to

rebuild and reequip forces in a reasonably expeditious manner should global conflict threaten and large forces be deemed necessary. Doenitz and his submarines were defeated by reconstitution. The U.S. and Britain were able to build ships at a much faster rate than they could be sunk by the submarines. The increased tonnage "bridged the gap" and kept England and the Soviet Union supplied until combatant shipping and aircraft were available to smother the military capability of the boats. Confidence in "Fortress America" and her ability to produce what is required in times of adversity has remained high since World War 2. The U.S. is a different country than it was 50 years ago, with a different, less robust economy. She must import a great deal of her strategic commodities. The people of the U.S. have shown a very short attention span in long duration, low intensity conflicts. It is doubtful that critical shipping or combatants lost in the early stages of a conflict could be replaced in time to have an effect on the outcome. "Reconstitution" offers the comfort of history as a rationalization for massive disarmament and little else. America will fight the low intensity battles of the future with the forces and assets she and the members of her coalition have when it begins.

#### **The Price of the High Cost, Multi-purpose Weapons System.**

There is a historical tendency during lean years to build combatant systems and acquire weapons like those used in the previous conflict. There is also a tendency to buy a few of the large, highly capable, multi use platforms, than more of the lower tech single use platforms. The Germans fought the Battle of the Atlantic with submarines. Her large capital ships had little effect in the outcome of the war. Most went down in a blaze of glory which benefited the Reich little. The cost to Germany was high. The early emphasis on the

construction of the surface fleet severely limited the numbers of U-Boats available throughout the war.<sup>12</sup> On the allied side the Battle of the Atlantic was won by escort vessels and long range aircraft. The large, capital ships laid down by Britain in the inter war years contributed little other than to sortie against the German and Italian capital ships on a few occasions. There is an important lesson here. Although "From the Sea" has ostensibly shifted the strategic focus from blue water to brown, the types ships which enable that strategy are the same ones that won the cold war. As the U.S. fleet downsizes, the emphasis remains on the Carrier Battle Group. The cost of maintaining numerous CVBG's may be the cancellation of procurement of much needed smaller ships such as destroyers and minesweeps. This emphasis on power projection may limit the ability to maintain sea control on the littoral.

#### **The Importance of Joint Operations.**

Time and time again during World War 2 the Germans lost opportunities because of the failure of interservice planning and execution. The Luftwaffe contributed little to the Battle of the Atlantic. The great success of the one instance of joint operations against the northern convoys to Murmansk only highlights the deficiency.<sup>13</sup> Lack of joint planning was the norm. U-boat operations were not even coincidentally planned to support or capitalize on the sorties by the German capital ships. The Bismarck made her dash with no plan for supporting U-Boat operations. The U-boat 556 had the carrier Ark Royal and the battleship Renown in her sights as the Bismarck steamed for France. Ironically all she could do was watch as she was out of torpedoes.<sup>14</sup>

Nowhere was this lack of cooperation and joint planning more apparent than during the crucial months in the winter of 1940-1941. The Battle of the Atlantic was not coordinated with the Battle of Britain and the Blitz.<sup>15</sup> The Luftwaffe's bombing during the Battle of Britain, momentarily knocked the Port of London out of action. Other ports were not attacked in an attempt to disrupt the ability of convoys to unload.<sup>16</sup>

The allies were only slightly better in this regard. They engaged in a continuing debate over air support of convoy operations<sup>17</sup> It took a personal intervention of Prime Minister Churchill with President Roosevelt to get the VLR liberators assigned to the Atlantic vice Pacific by Admiral King.<sup>18</sup>

Joint and combined operations are the key to future success given the reality of downsized armed forces. Collective action is desirable and effective joint operations are essential. The U.S. is mastering the joint operational art. We must refine the practice to include our continuing or ad hoc allies.

#### **The Price of Forward Operations Without Forward Bases.**

Time and again Doenitz made substantial gains against allied shipping but was unable to sustain the effort due to the shortage of boats and the problems of maintenance, resupply, and crew fatigue caused in part, by lack of bases. There are lessons here for U.S. forces who remain heavily committed despite dwindling numbers and fewer forward bases. Personnel and equipment wear out. The tendency is squeeze the last few months out of the deployment or the maintenance cycle. The price of such stretching is long term. Germany paid that price in the Battle of the Atlantic on three occasions when she was forced to

withdraw on the eve of victory. Modern operators will do well to take heed. The very weapons systems and forces needed most may not be in "fighting trim" at the proper time.

### **The Importance of Doctrine.**

The United States Navy has never fully appreciated the value of doctrine. It has paid lip service has been paid to forward thinkers and military intellectuals, but more often than not has continued planning and procuring for a force to fight the last war. As a result change for the Navy is usually painful and sometimes costly.

Doctrine has a negative connotation for many of today's naval operators. It is seen as a type of intellectual straightjacket which inhibits flexible thinking. "Why have doctrine," they argue, "when each contingency is unique and requires a custom tailored response?" Such arguments beg the question.

Sound doctrine is vitally important. It provides a framework for seeing problems and opportunities. It forces deep thinking on the hard questions. It assists the operator in determining where he is and what he needs to do to get where he's going. Doctrine provides a common framework of understanding which can result in confidence and guidance during the fog and friction of operations.

*By forcing consideration of and assisting in the answering of the hard questions, doctrine can be of great assistance in the procurement process. Procuring what has always been procured is an easy out for the inflexible and unimaginative. Doctrine assists the forward*

thinker in overcoming the inertia of tradition as he seeks to answer challenging questions of tomorrow's threat and the forces to counter that threat.

Sound doctrine greatly enhanced the effectiveness of Admiral Doenitz's forces in the Battle of the Atlantic. The U.S. Navy would be well advised to continue its emphasis on the development of Naval doctrine.

### Chapter III Endnotes

1. Terry Hughes and John Costello, The Battle of the Atlantic, (New York: Dial, 1977), p. 31.
2. Richard Hough, The Longest Battle: The War at Sea 1939-1945, (New York: Morrow, 1986), p. 39.
3. John Keegan, The Second World War, (New York, Viking, 1989) p. 111.
4. Dan van der Vat, The Atlantic Campaign, World War II's Great Struggle at Sea, (New York: Harper & Row, 1988), p. 263.
5. Wolfgang, Frank, The Sea Wolves, The Story of the German U-Boats at War. trans. Lieutenant Commander R.O.B. Long, R.N.V.R., (New York: Rinehart, 1955) p. 185.
6. van der Vat, p. 171.
7. Hughes and Costello, p. 225.
8. Ibid., p. 225.
9. Keegan, The Second World War p. 111.
10. Hughes and Costello, p. 155.
11. Colin L. Powell, The National Security Strategy of the United States, (Washington, U.S. Government Printing Office, 1992), p.7.
12. Frank, p. 194.
13. van der Vat, p. 279.
14. Frank, p. 115.



15. Hughes and Costello, p. 102.
16. Ibid., p. 131.
17. van der Vat, p. 203.
18. Ibid., p. 221.

## CHAPTER IV

### Conclusions.

A study of the Battle of the Atlantic is highly worthwhile for the operator of the 21st century. The relevant lessons, however, stem not from how the Allied juggernaut managed to overwhelm the German U-Boat, but rather how Admiral Doenitz managed to accomplish so much despite the odds. His accomplishments flow directly from his innovative and highly competent practice of the operational art.

Doenitz was never in total control of his destiny. He suffered from Hitler's strategic illiteracy, total ignorance of naval affairs, and refusal to fully mobilize the industrial output of the Third Reich. This denied him the boats in the numbers he needed them at the time they could be effective. Yet, despite these handicaps, Doenitz fought the Battle of the Atlantic with consummate operational skill. He adopted a strategy of sea denial and the merchant ship as the center of gravity. His objective was to sink ships faster than they could be built. He nearly succeeded.

Doenitz planned the campaigns of the Battle of the Atlantic to take maximum advantage of initiative, mobility, mass, and economy of force. He insured that this crews were trained and indoctrinated prior to deployment.

His centralized control and decentralized execution of the campaigns was as masterful as his planning. He used all of the assets available to him to get his U-boats in the best position to locate and attack the ships and convoys. When he was strong, he massed his boats for attack. When he was weak, he dispersed the boats. His vision, intuition, and sense of

culminating point allowed him to monitor the pulse of the Battle and change direction when required to maintain the initiative. In the end it cautioned him to pull the boats from the North Atlantic.

The warrior of today would do well to emulate the operational style of Admiral Doenitz. Sound doctrine, vision, a clear understanding of strategy and the center of gravity, initiative, tenacity, and the confidence of decentralized execution, are qualities and attributes that will distinguish the small ineffective force from the small effective force in the future.

#### **Recommendations.**

The paper recommends that the student of the Battle of the Atlantic not unduly emphasize that strategic bases for the Allied victory. The battle was won by reconstitution, a much less meaningful concept, today. Technology contributed to the victory but was not decisive. The large, expensive battle fleet of the Allies did little to defeat the U-Boats. Escorts did. The large, expensive weapons platforms of today's navy may be equally ill suited to wage war on the littoral with full effect.

Germany's failure to plan for and initiate joint naval, Luftwaffe operations in the Battle of the Atlantic, may have been crucial. The success of future operations may hinge on the successful joint and combined operations. Forward presence without forward bases involves costs. Ships, material, and manpower wear out. Peacetime operational tempos need to be adjusted downwards. Finally, the development and acceptance of a sound and comprehensive doctrine for naval warfare is critical.

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